```
 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

 See HELP RANGE before carrying out any RANGE search.

=> s nocel approach to specific growth factor
             0 NOCEL
        509480 APPROACH
        169969 APPROACHES
        643384 APPROACH
                  (APPROACH OR APPROACHES)
      10075147 TO
          1074 TOS
      10075444 TO
                  (TO OR TOS)
       1246737 SPECIFIC
          1438 SPECIFICS
       1247887 SPECIFIC
                  (SPECIFIC OR SPECIFICS)
       1027883 GROWTH
          1922 GROWTHS
       1029285 GROWTH
                  (GROWTH OR GROWTHS)
        953627 FACTOR
       2381874 FACTORS
       2979682 FACTOR
                  (FACTOR OR FACTORS)
L1           0 NOCEL APPROACH TO SPECIFIC GROWTH FACTOR
                  (NOCEL(W)APPROACH(W)TO(W)SPECIFIC(W)GROWTH(W)FACTOR)

=> s novel approach to specific growth factor
        405621 NOVEL
           273 NOVELS
        405846 NOVEL
                  (NOVEL OR NOVELS)
        509480 APPROACH
        169969 APPROACHES
        643384 APPROACH
                  (APPROACH OR APPROACHES)
      10075147 TO
          1074 TOS
      10075444 TO
                  (TO OR TOS)
       1246737 SPECIFIC
          1438 SPECIFICS
       1247887 SPECIFIC
                  (SPECIFIC OR SPECIFICS)
       1027883 GROWTH
          1922 GROWTHS
       1029285 GROWTH
                  (GROWTH OR GROWTHS)
        953627 FACTOR
       2381874 FACTORS
       2979682 FACTOR
                  (FACTOR OR FACTORS)
L2           1 NOVEL APPROACH TO SPECIFIC GROWTH FACTOR
                  (NOVEL(W)APPROACH(W)TO(W)SPECIFIC(W)GROWTH(W)FACTOR)

=> d bib ab
```

L2 ANSWER 1 OF 1 MEDLINE on STN
AN 1999113969 MEDLINE <<LOGINID::20090818>>
DN PubMed ID: 9916931
TI Novel approach to specific
growth factor inhibition in vivo: antagonism of
platelet-derived growth factor in glomerulonephritis by aptamers.
AU Floege J; Ostendorf T; Janssen U; Burg M; Radeke H H; Vargeese C; Gill S C; Green L S; Janjic N
CS Division of Nephrology, Medizinische Hochschule, Hannover, Germany.. Floege.Juergen@MH-Hannover.de
SO The American journal of pathology, (1999 Jan) Vol. 154, No. 1, pp. 169-79.
Journal code: 0370502. ISSN: 0002-9440.
Report No.: NLM-PMC1853442.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199902
ED Entered STN: 23 Feb 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 11 Feb 1999
AB Mesangial cell proliferation and matrix accumulation, driven by platelet-derived growth factor (PDGF), contribute to many progressive renal diseases. In a novel approach to antagonize PDGF, we investigated the effects of a nuclease-resistant high-affinity oligonucleotide aptamer in vitro and in vivo. In cultured mesangial cells, the aptamer markedly suppressed PDGF-BB but not epidermal- or fibroblast-growth-factor-2-induced proliferation. In vivo effects of the aptamer were evaluated in a rat mesangioproliferative glomerulonephritis model. Twice-daily intravenous (i.v.) injections from days 3 to 8 after disease induction of 2.2 mg/kg PDGF-B aptamer, coupled to 40-kd polyethylene glycol (PEG), led to 1) a reduction of glomerular mitoses by 64% on day 6 and by 78% on day 9, 2) a reduction of proliferating mesangial cells by 95% on day 9, 3) markedly reduced glomerular expression of endogenous PDGF B-chain, 4) reduced glomerular monocyte/macrophage influx on day 6 after disease induction, and 5) a marked reduction of glomerular extracellular matrix overproduction (as assessed by analysis of fibronectin and type IV collagen) both on the protein and mRNA level. The administration of equivalent amounts of a PEG-coupled aptamer with a scrambled sequence or PEG alone had no beneficial effect on the natural course of the disease. These data show that specific inhibition of growth factors using custom-designed, high-affinity aptamers is feasible and effective.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.64	0.86

FILE 'STNGUIDE' ENTERED AT 11:23:24 ON 18 AUG 2009

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION

FULL ESTIMATED COST 0.42 1.28

STN INTERNATIONAL LOGOFF AT 11:26:48 ON 18 AUG 2009

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1632ras

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	DEC 01	ChemPort single article sales feature unavailable
NEWS	3	JUN 01	CAS REGISTRY Source of Registration (SR) searching enhanced on STN
NEWS	4	JUN 26	NUTRACEUT and PHARMAML no longer updated
NEWS	5	JUN 29	IMSCOPROFILE now reloaded monthly
NEWS	6	JUN 29	EPFULL adds Simultaneous Left and Right Truncation (SLART) to AB, MCLM, and TI fields
NEWS	7	JUL 09	PATDPAFULL adds Simultaneous Left and Right Truncation (SLART) to AB, CLM, MCLM, and TI fields
NEWS	8	JUL 14	USGENE enhances coverage of patent sequence location (PSL) data
NEWS	9	JUL 27	CA/CAplus enhanced with new citing references
NEWS	10	JUL 16	GBFULL adds patent backfile data to 1855
NEWS	11	JUL 21	USGENE adds bibliographic and sequence information
NEWS	12	JUL 28	EPFULL adds first-page images and applicant-cited references
NEWS	13	JUL 28	INPADOCDB and INPAFAMDB add Russian legal status data
NEWS	14	AUG 08	Improve STN by completing a survey and be entered to win a gift card
NEWS	15	AUG 10	Time limit for inactive STN sessions doubles to 40 minutes
NEWS	16	AUG 17	CAS REGISTRY, the Global Standard for Chemical Research, Approaches 50 Millionth Registration Milestone
NEWS	17	AUG 18	COMPENDEX indexing changed for the Corporate Source (CS) field

NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that specific topic.

gateways, or use of CAS and STN data in the building of commercial products is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 07:14:07 ON 20 AUG 2009

=> file medline
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.22 0.22

FILE 'MEDLINE' ENTERED AT 07:14:20 ON 20 AUG 2009

FILE LAST UPDATED: 19 Aug 2009 (20090819/UP). FILE COVERS 1949 TO DATE.

MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject Headings (MeSH) vocabulary and tree numbers from the U.S. National Library of Medicine (NLM). Additional information is available at

http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.html.

On February 21, 2009, MEDLINE was reloaded. See HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

See HELP RANGE before carrying out any RANGE search.

=> s mismatch? and sirna
26652 MISMATCH?
10822 SIRNA
2680 SIRNAS
11832 SIRNA
(SIRNA OR SIRNAS)
L1 117 MISMATCH? AND SIRNA

=> d ti 70-117

L1 ANSWER 70 OF 117 MEDLINE on STN
TI Passenger-strand cleavage facilitates assembly of siRNA into Ago2-containing RNAi enzyme complexes.

L1 ANSWER 71 OF 117 MEDLINE on STN
TI An efficient intrathecal delivery of small interfering RNA to the spinal cord and peripheral neurons.

L1 ANSWER 72 OF 117 MEDLINE on STN
TI 518A2 melanoma cells are protected by G3139 and other antineoplastic agents against the cytotoxic effects of DTIC.

L1 ANSWER 73 OF 117 MEDLINE on STN
TI Biomembrane-permeable and Ribonuclease-resistant siRNA with enhanced activity.

L1 ANSWER 74 OF 117 MEDLINE on STN
TI Quantum dot-conjugated hybridization probes for preliminary screening of siRNA sequences.

L1 ANSWER 75 OF 117 MEDLINE on STN
TI Differential nonsense mediated decay of mutated mRNAs in mismatch repair deficient colorectal cancers.

L1 ANSWER 76 OF 117 MEDLINE on STN
TI The role RNA interference of alpha1, 3GT plays in resistance to complement mediated cytotoxicity of porcine endothelial cells.

L1 ANSWER 77 OF 117 MEDLINE on STN
TI Specific effects of microRNAs on the plant transcriptome.

L1 ANSWER 78 OF 117 MEDLINE on STN
TI Inhibition of vascular endothelial growth factor gene expression by T7-siRNAs in cultured human retinal pigment epithelial cells.

L1 ANSWER 79 OF 117 MEDLINE on STN
TI Accelerated off-target search algorithm for siRNA.

L1 ANSWER 80 OF 117 MEDLINE on STN
TI hMutS alpha is protected from ubiquitin-proteasome-dependent degradation by atypical protein kinase C zeta phosphorylation.

L1 ANSWER 81 OF 117 MEDLINE on STN
TI A computational study of off-target effects of RNA interference.

L1 ANSWER 82 OF 117 MEDLINE on STN
TI Silencing of human c-myc oncogene expression by poly-DNP-RNA.

L1 ANSWER 83 OF 117 MEDLINE on STN
TI Osteopontin silencing by small interfering RNA suppresses in vitro and in vivo CT26 murine colon adenocarcinoma metastasis.

L1 ANSWER 84 OF 117 MEDLINE on STN
TI A systematic analysis of the silencing effects of an active siRNA at all single-nucleotide mismatched target sites.

L1 ANSWER 85 OF 117 MEDLINE on STN
TI Evaluation of in vitro inhibitory potential of small interfering RNAs directed against various regions of foot-and-mouth disease virus genome.

L1 ANSWER 86 OF 117 MEDLINE on STN
TI Influence of assembly of siRNA elements into RNA-induced silencing complex by fork-siRNA duplex carrying nucleotide mismatches at the 3'- or 5'-end of the sense-stranded siRNA element.

L1 ANSWER 87 OF 117 MEDLINE on STN
TI Inhibition of coxsackievirus B3 replication by small interfering RNAs requires perfect sequence match in the central region of the viral positive strand.

L1 ANSWER 88 OF 117 MEDLINE on STN

TI ESPSearch: a program for finding exact sequences and patterns in DNA, RNA, or protein.

L1 ANSWER 89 OF 117 MEDLINE on STN
TI Poliovirus escape from RNA interference: short interfering RNA-target recognition and implications for therapeutic approaches.

L1 ANSWER 90 OF 117 MEDLINE on STN
TI Rescue of the TTF2 knockdown phenotype with an siRNA-resistant replacement vector.

L1 ANSWER 91 OF 117 MEDLINE on STN
TI HPC1/RNASEL mediates apoptosis of prostate cancer cells treated with 2',5'-oligoadenylates, topoisomerase I inhibitors, and tumor necrosis factor-related apoptosis-inducing ligand.

L1 ANSWER 92 OF 117 MEDLINE on STN
TI Validating siRNA using a reporter made from synthetic DNA oligonucleotides.

L1 ANSWER 93 OF 117 MEDLINE on STN
TI Cloning and gene silencing of LAT2, the L-3,4-dihydroxyphenylalanine (L-DOPA) transporter, in pig renal LLC-PK1 epithelial cells.

L1 ANSWER 94 OF 117 MEDLINE on STN
TI Systemic siRNA-mediated gene silencing: a new approach to targeted therapy of cancer.

L1 ANSWER 95 OF 117 MEDLINE on STN
TI Picking a winner: new mechanistic insights into the design of effective siRNAs.

L1 ANSWER 96 OF 117 MEDLINE on STN
TI Retrovirally mediated RNA interference targeting the M2 subunit of ribonucleotide reductase: A novel therapeutic strategy in pancreatic cancer.

L1 ANSWER 97 OF 117 MEDLINE on STN
TI Use of siRNAs and antisense oligonucleotides against survivin RNA to inhibit steps leading to tumor angiogenesis.

L1 ANSWER 98 OF 117 MEDLINE on STN
TI Poly-2'-DNP-RNAs with enhanced efficacy for inhibiting cancer cell growth.

L1 ANSWER 99 OF 117 MEDLINE on STN
TI Downregulation of Bcl-2, FLIP or IAPs (XIAP and survivin) by siRNAs sensitizes resistant melanoma cells to Apo2L/TRAIL-induced apoptosis.

L1 ANSWER 100 OF 117 MEDLINE on STN
TI Many commonly used siRNAs risk off-target activity.

L1 ANSWER 101 OF 117 MEDLINE on STN
TI RISC is a 5' phosphomonoester-producing RNA endonuclease.

L1 ANSWER 102 OF 117 MEDLINE on STN
TI Mismatch repair-mediated G2/M arrest by 6-thioguanine involves the ATR-Chk1 pathway.

L1 ANSWER 103 OF 117 MEDLINE on STN
TI Derivation and function of small interfering RNAs and microRNAs.

L1 ANSWER 104 OF 117 MEDLINE on STN
TI Nucleotide-based therapies targeting clusterin chemosensitize human lung adenocarcinoma cells both in vitro and in vivo.

L1 ANSWER 105 OF 117 MEDLINE on STN
TI Differentiated human podocytes endogenously express an inhibitory isoform of vascular endothelial growth factor (VEGF165b) mRNA and protein.

L1 ANSWER 106 OF 117 MEDLINE on STN
TI Enhancement of RNAi activity by improved siRNA duplexes.

L1 ANSWER 107 OF 117 MEDLINE on STN
TI The p38 mitogen-activated protein kinase pathway links the DNA mismatch repair system to the G2 checkpoint and to resistance to chemotherapeutic DNA-methylating agents.

L1 ANSWER 108 OF 117 MEDLINE on STN
TI Functional siRNAs and miRNAs exhibit strand bias.

L1 ANSWER 109 OF 117 MEDLINE on STN
TI Asymmetry in the assembly of the RNAi enzyme complex.

L1 ANSWER 110 OF 117 MEDLINE on STN
TI Specific gene silencing using small interfering RNAs in fish embryos.

L1 ANSWER 111 OF 117 MEDLINE on STN
TI Allele-specific silencing of a pathogenic mutant acetylcholine receptor subunit by RNA interference.

L1 ANSWER 112 OF 117 MEDLINE on STN
TI siRNA function in RNAi: a chemical modification analysis.

L1 ANSWER 113 OF 117 MEDLINE on STN
TI Efficient reduction of target RNAs by small interfering RNA and RNase H-dependent antisense agents. A comparative analysis.

L1 ANSWER 114 OF 117 MEDLINE on STN
TI Effects on RNA interference in gene expression (RNAi) in cultured mammalian cells of mismatches and the introduction of chemical modifications at the 3'-ends of siRNAs.

L1 ANSWER 115 OF 117 MEDLINE on STN
TI RNA interference by expression of short-interfering RNAs and hairpin RNAs in mammalian cells.

L1 ANSWER 116 OF 117 MEDLINE on STN
TI Positional effects of short interfering RNAs targeting the human coagulation trigger Tissue Factor.

L1 ANSWER 117 OF 117 MEDLINE on STN
TI Functional anatomy of siRNAs for mediating efficient RNAi in Drosophila melanogaster embryo lysate.

=> d bib ab 114 116 112 111 106 95 86 85 84

L1 ANSWER 114 OF 117 MEDLINE on STN
AN 2002714933 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 12477280
TI Effects on RNA interference in gene expression (RNAi) in cultured

mammalian cells of mismatches and the introduction of chemical modifications at the 3'-ends of siRNAs.

AU Hamada Makiko; Ohtsuka Toshiaki; Kawaida Reimi; Koizumi Makoto; Morita Koji; Furukawa Hidehiko; Imanishi Takeshi; Miyagishi Makoto; Taira Kazunari

CS Biomedical Research Laboratories, Sankyo Co., Ltd., Tokyo 140-8710, Japan.

SO Antisense & nucleic acid drug development, (2002 Oct) Vol. 12, No. 5, pp. 301-9.
Journal code: 9606142. ISSN: 1087-2906.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200305

ED Entered STN: 17 Dec 2002
Last Updated on STN: 9 May 2003
Entered Medline: 8 May 2003

AB The highly specific posttranscriptional silencing of gene expression induced by double-stranded RNA (dsRNA) is known as RNA interference (RNAi) and has been demonstrated in plants, nematodes, Drosophila, and protozoa, as well as in mammalian cells. The suppression of expression of specific genes by chemically synthesized 21-nucleotide (21-nt) RNA duplexes has been achieved in various lines of mammalian cells, and this technique might prove to be a valuable tool in efforts to analyze biologic functions of genes in mammalian cells. In order to investigate the utility of potential modifications that can be introduced into small interfering RNAs (siRNAs) and also to study their functional anatomy, we synthesized different types of siRNA targeted to mRNA of Jun dimerization protein 2 (JDP2). Our detailed analysis demonstrated that siRNAs with only one mismatch, relative to the target, on the antisense strand had reduced RNAi effect, whereas the corresponding mutation on the sense strand did not interfere with the RNAi. Moreover, one 2-hydroxyethylphosphate (hp) substitution at the 3'-end of the antisense strand but not of the sense strand also prevented RNAi, whereas a related modification at the 3'-end of either strand, using 2'-O,4'-C-ethylene thymidine (eT), which is a component of ethylene-bridge nucleic acids (ENA), completely abolished RNAi. These results support the hypothesis that the two strands have different functions in RNAi in cultured mammalian cells and indicate that their chemical modification of siRNAs at the 3'-end of the sense strand exclusively is possible, without loss of RNAi activity, depending on the type of modification. Because modification at the 3'-end of the antisense strand by hp or eT abolished the RNAi effect, it appears possible that the 3'-end is recognized by the RNA-induced silencing complex (RISC).

L1 ANSWER 116 OF 117 MEDLINE on STN

AN 2002204990 MEDLINE <<LOGINID::20090820>>

DN PubMed ID: 11937629

TI Positional effects of short interfering RNAs targeting the human coagulation trigger Tissue Factor.

AU Holen Torgeir; Amarzguioui Mohammed; Wiiger Merete T; Babaie Eshrat; Prydz Hans

CS The Biotechnology Centre of Oslo, University of Oslo, Gaustadalleen 21, N-0349 Oslo, Norway.

SO Nucleic acids research, (2002 Apr 15) Vol. 30, No. 8, pp. 1757-66.
Journal code: 0411011. E-ISSN: 1362-4962.
Report No.: NLM-PMC113209.

CY England: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals
EM 200204
ED Entered STN: 9 Apr 2002
Last Updated on STN: 19 Apr 2002
Entered Medline: 18 Apr 2002
AB Chemically synthesised 21-23 bp double-stranded short interfering RNAs (siRNA) can induce sequence-specific post-transcriptional gene silencing, in a process termed RNA interference (RNAi). In the present study, several siRNAs synthesised against different sites on the same target mRNA (human Tissue Factor) demonstrated striking differences in silencing efficiency. Only a few of the siRNAs resulted in a significant reduction in expression, suggesting that accessible siRNA target sites may be rare in some human mRNAs. Blocking of the 3'-OH with FITC did not reduce the effect on target mRNA. Mutations in the siRNAs relative to target mRNA sequence gradually reduced, but did not abolish mRNA depletion. Inactive siRNAs competed reversibly with active siRNAs in a sequence-independent manner. Several lines of evidence suggest the existence of a near equilibrium kinetic balance between mRNA production and siRNA -mediated mRNA depletion. The silencing effect was transient, with the level of mRNA recovering fully within 4-5 days, suggesting absence of a propagative system for RNAi in humans. Finally, we observed 3' mRNA cleavage fragments resulting from the action of the most effective siRNAs. The depletion rate-dependent appearance of these fragments argues for the existence of a two-step mRNA degradation mechanism.

L1 ANSWER 112 OF 117 MEDLINE on STN
AN 2003437660 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 12923253
TI siRNA function in RNAi: a chemical modification analysis.
AU Chiu Ya-Lin; Rana Tariq M
CS Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, Massachusetts 01605, USA.
NC AI41404 (United States NIAID NIH HHS)
AI43198 (United States NIAID NIH HHS)
AI45466 (United States NIAID NIH HHS)
SO RNA (New York, N.Y.), (2003 Sep) Vol. 9, No. 9, pp. 1034-48.
Journal code: 9509184. ISSN: 1355-8382.
Report No.: NLM-PMC1370469.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Priority Journals
EM 200310
ED Entered STN: 23 Sep 2003
Last Updated on STN: 17 Oct 2003
Entered Medline: 16 Oct 2003
AB Various chemical modifications were created in short-interfering RNAs (siRNAs) to determine the biochemical properties required for RNA interference (RNAi). Remarkably, modifications at the 2'-position of pentose sugars in siRNAs showed the 2'-OHs were not required for RNAi, indicating that RNAi machinery does not require the 2'-OH for recognition of siRNAs and catalytic ribonuclease activity of RNA-induced silencing complexes (RISCs) does not involve the 2'-OH of guide antisense RNA. In addition, 2' modifications predicted to stabilize siRNA increased the persistence of RNAi as compared with wild-type siRNAs. RNAi was also induced with chemical modifications that stabilized interactions between A-U base pairs, demonstrating that these types of modifications may enhance mRNA targeting efficiency in

allele-specific RNAi. Modifications altering the structure of the A-form major groove of antisense siRNA-mRNA duplexes abolished RNAi, suggesting that the major groove of these duplexes was required for recognition by activated RISC*. Comparative analysis of the stability and RNAi activities of chemically modified single-stranded antisense RNA and duplex siRNA suggested that some catalytic mechanism(s) other than siRNA stability were linked to RNAi efficiency. Modified or mismatched ribonucleotides incorporated at internal positions in the 5' or 3' half of the siRNA duplex, as defined by the antisense strand, indicated that the integrity of the 5' and not the 3' half of the siRNA structure was important for RNAi, highlighting the asymmetric nature of siRNA recognition for initiation of unwinding. Collectively, this study defines the mechanisms of RNAi in human cells and provides new rules for designing effective and stable siRNAs for RNAi-mediated gene-silencing applications.

L1 ANSWER 111 OF 117 MEDLINE on STN
AN 2003463345 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 12928480
TI Allele-specific silencing of a pathogenic mutant acetylcholine receptor subunit by RNA interference.
AU Abdelgany Amr; Wood Matthew; Beeson David
CS Neurosciences Group, Weatherall Institute of Molecular Medicine, University of Oxford, UK.
SO Human molecular genetics, (2003 Oct 15) Vol. 12, No. 20, pp. 2637-44.
Electronic Publication: 2003-08-19.
Journal code: 9208958. ISSN: 0964-6906.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200407
ED Entered STN: 4 Oct 2003
Last Updated on STN: 21 Jul 2004
Entered Medline: 20 Jul 2004
AB Slow channel congenital myasthenic syndrome (SCCMS) is a disorder of the neuromuscular synapse caused by dominantly inherited missense mutations in genes that encode the muscle acetylcholine receptor (AChR) subunits. Here we investigate the potential of post-transcriptional gene silencing using RNA interference (RNAi) for the selective down-regulation of pathogenic mutant AChR. By transfection of both siRNA and shRNA into mammalian cells expressing wild-type or mutant AChR subunits, we show, using 125I-alpha-bungarotoxin binding and immunofluorescence to measure cell surface AChR expression, efficient discrimination between the silencing of alphaS226F AChR mutant RNA transcripts and the wild-type. In this model we find that selectivity between mutant and wild-type transcripts is optimized with the nucleotide mismatch at position 9 in the shRNA complementary sequence. We also find that allele-specific silencing using shRNA has comparable efficiency to that using siRNA, underlining the general potential of stable expression of shRNA molecules as a long term therapeutic approach for allele-specific silencing of mutant transcripts in dominant genetic disorders.

L1 ANSWER 106 OF 117 MEDLINE on STN
AN 2004041559 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 14741366
TI Enhancement of RNAi activity by improved siRNA duplexes.
AU Hohjoh Hirohiko
CS National Institute of Neuroscience, NCNP, 4-1-1 Ogawahigashi, Kodaira,

Tokyo 187-8502, Japan.. hohkohn@ncnp.go.jp
SO FEBS letters, (2004 Jan 16) Vol. 557, No. 1-3, pp. 193-8.
Journal code: 0155157. ISSN: 0014-5793.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200404
ED Entered STN: 27 Jan 2004
Last Updated on STN: 7 Apr 2004
Entered Medline: 6 Apr 2004
AB RNA interference (RNAi) is a powerful tool for suppressing the expression of a gene of interest, in which 21-25 nucleotide short interfering RNA (siRNA) duplexes homologous to the silenced gene function as sequence-specific RNAi mediators. The present study shows that newly designed siRNA duplexes, 'fork-siRNA duplexes', whose sense-stranded siRNA elements carry one to four nucleotide mismatches at the 3'-ends against the antisense-stranded siRNA elements, can enhance RNAi activity over conventional siRNA duplexes in cultured mammalian cells.

L1 ANSWER 95 OF 117 MEDLINE on STN
AN 2004426817 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15331225
TI Picking a winner: new mechanistic insights into the design of effective siRNAs.
AU Gong Delquin; Ferrell James E Jr
CS Department of Biological Sciences, Stanford University, Stanford, CA 94305-5020, USA.
SO Trends in biotechnology, (2004 Sep) Vol. 22, No. 9, pp. 451-4.
Journal code: 8310903. ISSN: 0167-7799.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200503
ED Entered STN: 28 Aug 2004
Last Updated on STN: 16 Mar 2005
Entered Medline: 15 Mar 2005
AB Recent work has shown that the efficacy of a small interfering RNA (siRNA) for silencing gene expression is a function of how easy it is to unwind the siRNA from the 5'-antisense end. Based on these insights, one group has designed an algorithm that substantially improves the odds of picking an effective siRNA, and two groups have shown that 'forked' or 'frayed' siRNAs, which should be easier to unwind from the 5'-antisense end, are more effective than conventional siRNAs. These strategies represent important steps towards the rational design of effective siRNAs.

L1 ANSWER 86 OF 117 MEDLINE on STN
AN 2005106737 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15737617
TI Influence of assembly of siRNA elements into RNA-induced silencing complex by fork-siRNA duplex carrying nucleotide mismatches at the 3'- or 5'-end of the sense-stranded siRNA element.
AU Ohnishi Yusuke; Tokunaga Katsushi; Hohjoh Hirohiko
CS National Institute of Neuroscience, NCNP, 4-1-1 Ogawahigashi, Kodaira, Tokyo 187-8502, Japan.
SO Biochemical and biophysical research communications, (2005 Apr 8) Vol.

329, No. 2, pp. 516-21.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200505
ED Entered STN: 2 Mar 2005
Last Updated on STN: 6 May 2005
Entered Medline: 5 May 2005
AB RNA interference (RNAi) is a powerful method for suppressing the expression of a gene of interest, and can be induced by 21-25 nucleotide small interfering RNA (siRNA) duplexes homologous to the silenced gene, which function as sequence-specific RNAi mediators in RNA-induced silencing complexes (RISCs). In the previous study, it was shown that fork-siRNA duplexes, whose sense-stranded siRNA elements carried a few nucleotide mismatches at the 3'-ends against the antisense-stranded siRNA elements, could enhance RNAi activity more than conventional siRNA duplexes in cultured mammalian cells. In this study, we further characterized fork-siRNA duplexes using reporter plasmids carrying target sequences complementary to the sense- or antisense-stranded siRNA elements in the untranslated region of Renilla luciferase. The data presented here suggest that nucleotide mismatches at either the 3'- or 5'-end of the sense-stranded siRNA elements in fork-siRNA duplexes could influence assembly of not only the antisense-stranded siRNA elements but also the sense-stranded elements into RISCs. In addition, we further suggest the possibility that there could be a positional effect of siRNA duplex on RNAi activity.

L1 ANSWER 85 OF 117 MEDLINE on STN
AN 2005121791 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15752771
TI Evaluation of in vitro inhibitory potential of small interfering RNAs directed against various regions of foot-and-mouth disease virus genome.
AU Mohapatra Jajati Keshari; Sanyal Aniket; Hemadri Divakar; Tosh Chakradhar; Kumar R Manoj; Bandyopadhyay Santanu Kumar
CS Project Directorate on Foot-and-Mouth Disease, Indian Veterinary Research Institute Campus, Mukteswar-Kumaon, Nainital 263 138, Uttaranchal, India.
SO Biochemical and biophysical research communications, (2005 Apr 15) Vol. 329, No. 3, pp. 1133-8.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200505
ED Entered STN: 9 Mar 2005
Last Updated on STN: 17 May 2005
Entered Medline: 16 May 2005
AB India is endemic for foot-and-mouth disease and it continues to be a major threat to the livestock industry despite vaccination programmes. In the present study, the ability of specific small interfering (si)RNAs directed against different genomic regions of foot-and-mouth disease virus (FMDV) to inhibit virus replication in BHK-21 cells was examined. For preliminary evaluation of possible siRNA-mediated FMDV inhibition, a cocktail of several unique populations of 12-30bp siRNAs were successfully produced corresponding to three target regions located at structural (VP3-VP1), non-structural (2A-2C), and

non-structural-untranslated (3D-3'UTR) region of serotype Asia1. Once the populations of siRNAs generated were found to reduce the virus titre significantly, two highly conserved 21bp siRNA duplexes were designed by analysing all FMDV sequence entries available in public-domain databases. In virus titration assay, more than 99% inhibition of virus yield for all the four serotypes (type Asia1, O, A, and C) could be demonstrated in cells transfected with each of the FMDV-specific siRNAs at 24h post-infection, compared to control cells transfected with scrambled siRNA. This was well supported by reduction in OD values in FMDV-specific sandwich ELISA. Although 100-fold reduction in virus titre with siRNA1 is substantial considering the transfection efficiency and fixed level of input siRNA, siRNA2 emerged to be a better choice as target where more than 300-fold reduction was observed and its inhibitory effect extended up to 48 h post-infection against all the serotypes. Interestingly, in the present study type A virus (IND 17/77) had a single mismatch at position 2 in the siRNA2 target region but it did not abrogate the inhibitory effect.

L1 ANSWER 84 OF 117 MEDLINE on STN
AN 2005149865 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15781493
TI A systematic analysis of the silencing effects of an active siRNA at all single-nucleotide mismatched target sites.
AU Du Quan; Thonberg Hakan; Wang Jue; Wahlestedt Claes; Liang Zicai
CS Center for Genomics and Bioinformatics, Karolinska Institutet 171 77 Stockholm, Sweden.. quan.du@cgb.ki.se
SO Nucleic acids research, (2005) Vol. 33, No. 5, pp. 1671-7. Electronic Publication: 2005-03-21.
Journal code: 0411011. E-ISSN: 1362-4962.
Report No.: NLM-PMC1069010.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200503
ED Entered STN: 23 Mar 2005
Last Updated on STN: 29 Mar 2005
Entered Medline: 28 Mar 2005
AB The specificity of small interfering RNA (siRNA)-mediated gene silencing is a critical consideration for the application of RNA interference (RNAi). While the discovery of potential off-target effects by siRNAs is of concern, no systematic analysis has been conducted to explore the specificity of RNAi. Here, we present a study where a functionally validated siRNA (siCD46) was examined for silencing specificity on all possible 57 permutated target sites, each carrying a single-nucleotide mutation that would generate a mismatch when paired with siRNA antisense strand. We found that it was not only the position of the mismatched base pair, but also the identity of the nucleotides forming the mismatch that influenced silencing. Surprisingly, mismatches formed between adenine (A) and cytosine (C), in addition to the G:U wobble base pair, were well tolerated and target sites containing such mismatches were silenced almost as efficiently as its fully matched counterpart by siCD46. Northern blots showed that the silencing of fusion genes harboring the mutated target sites involved target mRNA degradation. This study provides direct evidence that the target recognition of siRNA is far more degenerative than previously considered. This finding is instrumental in the understanding of RNAi specificity and may aid the computational prediction of RNA

secondary structure.

```
=> FIL STNGUIDE
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       4.56       4.78

FILE 'STNGUIDE' ENTERED AT 07:17:51 ON 20 AUG 2009
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> d his full

     (FILE 'HOME' ENTERED AT 07:14:07 ON 20 AUG 2009)

     FILE 'MEDLINE' ENTERED AT 07:14:20 ON 20 AUG 2009
L1          117 SEA PLU=ON  MISMATCH? AND SIRNA
                D TI 70-117
                D BIB AB 114 116 112 111 106 95 86 85 84

     FILE 'STNGUIDE' ENTERED AT 07:17:51 ON 20 AUG 2009


     FILE HOME

     FILE MEDLINE
      FILE LAST UPDATED: 19 Aug 2009 (20090819/UP).  FILE COVERS 1949 TO DATE.

      MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject
      Headings (MeSH) vocabulary and tree numbers from the U.S.  National Libra
      of Medicine (NLM).  Additional information is available at

      http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.

      On February 21, 2009, MEDLINE was reloaded.  See HELP RLOAD for details.

      This file contains CAS Registry Numbers for easy and accurate
      substance identification.

      See HELP RANGE before carrying out any RANGE search.

     FILE STNGUIDE
     FILE CONTAINS CURRENT INFORMATION.
     LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> d ti 40-69
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE' - CONTINUE? (Y)/N:y



L1   ANSWER 40 OF 117     MEDLINE on STN
TI   RFRCDB-siRNA: improved design of siRNAs by random
     forest regression model coupled with database searching.

L1   ANSWER 41 OF 117     MEDLINE on STN
TI   Drosophila microRNAs are sorted into functionally distinct argonaute
```

complexes after production by dicer-1.

L1 ANSWER 42 OF 117 MEDLINE on STN
TI BRCA1 activates a G2-M cell cycle checkpoint following 6-thioguanine-induced DNA mismatch damage.

L1 ANSWER 43 OF 117 MEDLINE on STN
TI Novel insights into RNAi off-target effects using C. elegans paralogs.

L1 ANSWER 44 OF 117 MEDLINE on STN
TI CPT-11 (SN-38) chemotherapy may be selectively applicable to biliary tract cancer with low hMLH1 expression.

L1 ANSWER 45 OF 117 MEDLINE on STN
TI Inhibition of multiple strains of Venezuelan equine encephalitis virus by a pool of four short interfering RNAs.

L1 ANSWER 46 OF 117 MEDLINE on STN
TI Implications of phase transitions in knockdown networks of transitive RNAi.

L1 ANSWER 47 OF 117 MEDLINE on STN
TI Arrest of cancer cell proliferation by dsRNAs.

L1 ANSWER 48 OF 117 MEDLINE on STN
TI Comparison of siRNA-induced off-target RNA and protein effects.

L1 ANSWER 49 OF 117 MEDLINE on STN
TI Inhibition of SARS-CoV replication cycle by small interference RNAs silencing specific SARS proteins, 7a/7b, 3a/3b and S.

L1 ANSWER 50 OF 117 MEDLINE on STN
TI Small interfering RNAs targeting mutant K-ras inhibit human pancreatic carcinoma cells growth in vitro and in vivo.

L1 ANSWER 51 OF 117 MEDLINE on STN
TI Secondary siRNAs result from unprimed RNA synthesis and form a distinct class.

L1 ANSWER 52 OF 117 MEDLINE on STN
TI Gene silencing activity of siRNAs with a ribo-difluorotoluyl nucleotide.

L1 ANSWER 53 OF 117 MEDLINE on STN
TI Designing siRNA that distinguish between genes that differ by a single nucleotide.

L1 ANSWER 54 OF 117 MEDLINE on STN
TI Expression of vector-based small interfering RNA against West Nile virus effectively inhibits virus replication.

L1 ANSWER 55 OF 117 MEDLINE on STN
TI RiboSubstrates: a web application addressing the cleavage specificities of ribozymes in designated genomes.

L1 ANSWER 56 OF 117 MEDLINE on STN
TI RNA interference in vitro and in vivo using a novel chitosan/siRNA nanoparticle system.

L1 ANSWER 57 OF 117 MEDLINE on STN
TI DNA mismatch repair as an effector for promoting phorbol

ester-induced apoptotic DNA damage and cell killing: implications in tumor promotion.

L1 ANSWER 58 OF 117 MEDLINE on STN
TI Widespread siRNA "off-target" transcript silencing mediated by seed region sequence complementarity.

L1 ANSWER 59 OF 117 MEDLINE on STN
TI Mismatched siRNAs downregulate mRNAs as a function of target site location.

L1 ANSWER 60 OF 117 MEDLINE on STN
TI XPA versus ERCC1 as chemosensitising agents to cisplatin and mitomycin C in prostate cancer cells: role of ERCC1 in homologous recombination repair.

L1 ANSWER 61 OF 117 MEDLINE on STN
TI Antiviral activity of small interfering RNAs: specificity testing using heterologous virus reveals interferon-related effects overlooked by conventional mismatch controls.

L1 ANSWER 62 OF 117 MEDLINE on STN
TI Mammary gland tissue targeted overexpression of human protease-activated receptor 1 reveals a novel link to beta-catenin stabilization.

L1 ANSWER 63 OF 117 MEDLINE on STN
TI Improved targeting of miRNA with antisense oligonucleotides.

L1 ANSWER 64 OF 117 MEDLINE on STN
TI Determinants of specific RNA interference-mediated silencing of human beta-globin alleles differing by a single nucleotide polymorphism.

L1 ANSWER 65 OF 117 MEDLINE on STN
TI 3' UTR seed matches, but not overall identity, are associated with RNAi off-targets.

L1 ANSWER 66 OF 117 MEDLINE on STN
TI Hypoxia-inducible factor-1alpha polymorphisms and TSC1/2 mutations are complementary in head and neck cancers.

L1 ANSWER 67 OF 117 MEDLINE on STN
TI Transcription promotes contraction of CAG repeat tracts in human cells.

L1 ANSWER 68 OF 117 MEDLINE on STN
TI Transgenic small interfering RNA halts amyotrophic lateral sclerosis in a mouse model.

L1 ANSWER 69 OF 117 MEDLINE on STN
TI Inhibition of drug-resistant HIV-1 by RNA interference.

=> d bib ab 59
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE' - CONTINUE? (Y)/N:y

L1 ANSWER 59 OF 117 MEDLINE on STN
AN 2006369956 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 16764866
TI Mismatched siRNAs downregulate mRNAs as a function of

target site location.
AU Martin Scott E; Caplen Natasha J
CS Gene Silencing Section, Office of Science and Technology Partnerships, Office of the Director, CCR, NCI, NIH, Bethesda, MD 20892, USA.
SO FEBS letters, (2006 Jun 26) Vol. 580, No. 15, pp. 3694-8. Electronic Publication: 2006-06-05.
Journal code: 0155157. ISSN: 0014-5793.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., INTRAMURAL)
LA English
FS Priority Journals
EM 200608
ED Entered STN: 21 Jun 2006
Last Updated on STN: 9 Aug 2006
Entered Medline: 8 Aug 2006
AB In mammalian cells, RNA interference can be mediated by synthetic duplex RNAs, termed small interfering RNAs (siRNAs), which assist in cleaving completely complementary mRNA transcripts. MicroRNAs (miRNAs) are endogenous small RNAs that assist in translationally repressing mRNAs with regions of partial complementarity, but may also reduce transcript levels. Since miRNAs predominantly interact with the 3' UTRs of transcripts, we sought to ask if mismatched siRNAs mimicking miRNAs affect cognate mRNA levels as a function of target site location. We find that mismatched siRNAs targeting the 3' UTRs of two endogenous transcripts yield a greater reduction in mRNA levels than those targeting the coding region. Our findings demonstrate the importance of target site location within endogenous mRNAs for small RNAs associated with RNAi.

=> d his full

(FILE 'HOME' ENTERED AT 07:14:07 ON 20 AUG 2009)

FILE 'MEDLINE' ENTERED AT 07:14:20 ON 20 AUG 2009
L1 117 SEA PLU=ON MISMATCH? AND SIRNA
D TI 70-117
D BIB AB 114 116 112 111 106 95 86 85 84

FILE 'STNGUIDE' ENTERED AT 07:17:51 ON 20 AUG 2009

FILE 'MEDLINE' ENTERED AT 07:31:23 ON 20 AUG 2009
D TI 40-69

FILE 'STNGUIDE' ENTERED AT 07:31:24 ON 20 AUG 2009

FILE 'MEDLINE' ENTERED AT 07:32:56 ON 20 AUG 2009
D BIB AB 59

FILE 'STNGUIDE' ENTERED AT 07:32:56 ON 20 AUG 2009

FILE HOME

FILE MEDLINE
FILE LAST UPDATED: 19 Aug 2009 (20090819/UP). FILE COVERS 1949 TO DATE.

MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject Headings (MeSH) vocabulary and tree numbers from the U.S. National Libra of Medicine (NLM). Additional information is available at

```
      http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.

      On February 21, 2009, MEDLINE was reloaded.  See HELP RLOAD for details.

      This file contains CAS Registry Numbers for easy and accurate
      substance identification.

      See HELP RANGE before carrying out any RANGE search.

     FILE STNGUIDE
     FILE CONTAINS CURRENT INFORMATION.
     LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.07       7.71

STN INTERNATIONAL LOGOFF AT 07:33:23 ON 20 AUG 2009



Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:ssspta1632ras

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1          Web Page for STN Seminar Schedule - N. America
 NEWS  2  DEC 01  ChemPort single article sales feature unavailable
 NEWS  3  JUN 01  CAS REGISTRY Source of Registration (SR) searching
                  enhanced on STN
 NEWS  4  JUN 26  NUTRACEUT and PHARMAML no longer updated
 NEWS  5  JUN 29  IMSCOPROFILE now reloaded monthly
 NEWS  6  JUN 29  EPFULL adds Simultaneous Left and Right Truncation
                  (SLART) to AB, MCLM, and TI fields
 NEWS  7  JUL 09  PATDPAFULL adds Simultaneous Left and Right
                  Truncation (SLART) to AB, CLM, MCLM, and TI fields
 NEWS  8  JUL 14  USGENE enhances coverage of patent sequence location
                  (PSL) data
 NEWS  9  JUL 27  CA/CAplus enhanced with new citing references
 NEWS 10  JUL 16  GBFULL adds patent backfile data to 1855
 NEWS 11  JUL 21  USGENE adds bibliographic and sequence information
 NEWS 12  JUL 28  EPFULL adds first-page images and applicant-cited
                  references
 NEWS 13  JUL 28  INPADOCDB and INPAFAMDB add Russian legal status data
 NEWS 14  AUG 08  Improve STN by completing a survey and be entered to
                  win a gift card
 NEWS 15  AUG 10  Time limit for inactive STN sessions doubles to 40
                  minutes
 NEWS 16  AUG 17  CAS REGISTRY, the Global Standard for Chemical
```

```
                  Research, Approaches 50 Millionth Registration
                  Milestone
 NEWS 17  AUG 18  COMPENDEX indexing changed for the Corporate Source
                  (CS) field

 NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
              AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

*************************************************************************
*                                                                       *
* Please take a couple of minutes to complete our short survey.  Your   *
* name will be entered to win one of five $20 Amazon.com gift cards.    *
*                                                                       *
* See NEWS 14 for details or go directly to the survey at:              *
* http://www.zoomerang.com/Survey/?p=WEB229H4S8Q5UL                     *
*                                                                       *
*************************************************************************

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 08:23:26 ON 20 AUG 2009

=> file medline
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.22       0.22

FILE 'MEDLINE' ENTERED AT 08:23:33 ON 20 AUG 2009

 FILE LAST UPDATED: 19 Aug 2009 (20090819/UP).  FILE COVERS 1949 TO DATE.

 MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject
 Headings (MeSH) vocabulary and tree numbers from the U.S.  National Library
 of Medicine (NLM).  Additional information is available at

 http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.html.

 On February 21, 2009, MEDLINE was reloaded.  See HELP RLOAD for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

 See HELP RANGE before carrying out any RANGE search.

=> s dicer and substrate and mismatch?
            758 DICER
             19 DICERS
            761 DICER
```

```
                (DICER OR DICERS)
        230111 SUBSTRATE
        103276 SUBSTRATES
        289475 SUBSTRATE
                (SUBSTRATE OR SUBSTRATES)
         26652 MISMATCH?
L1           1 DICER AND SUBSTRATE AND MISMATCH?

=> d bib ab

L1   ANSWER 1 OF 1     MEDLINE on STN
AN   2008647339     MEDLINE <<LOGINID::20090820>>
DN   PubMed ID: 18839783
TI   Inhibition of human metapneumovirus replication by small interfering RNA.
AU   Deffrasnes Celine; Cavanagh Marie-Helene; Goyette Nathalie; Cui Kunyuan;
     Ge Qing; Seth Shaguna; Templin Michael V; Quay Steven C; Johnson Paul H;
     Boivin Guy
CS   Infectious Disease Research Centre of the Centre Hospitalier Universitaire
     de Quebec, Laval University, Quebec City, QC, Canada.
SO   Antiviral therapy, (2008) Vol. 13, No. 6, pp. 821-32.
     Journal code: 9815705. ISSN: 1359-6535.
CY   England: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
     (RESEARCH SUPPORT, NON-U.S. GOV'T)
LA   English
FS   Priority Journals
EM   200811
ED   Entered STN: 9 Oct 2008
     Last Updated on STN: 8 Nov 2008
     Entered Medline: 7 Nov 2008
AB   BACKGROUND: Human metapneumovirus (hMPV) is a major respiratory viral
     pathogen in young children, elderly individuals and immunocompromised
     patients.  Despite its major effects related to bronchiolitis, pneumonia
     and its potential role in recurrent wheezing episodes, there is still no
     commercial treatment or vaccine available against this paramyxovirus.
     METHODS: We tested a therapeutic strategy for hMPV that was based on RNA
     interference.  RESULTS: An hMPV genome-wide search for small interfering
     RNAs (siRNAs) by computational analysis revealed 200 potentially effective
     21-mer siRNAs.  Initial screening with a luciferase assay identified 57
     siRNAs of interest.  Further evaluation of their inhibitory potential
     against the four hMPV subgroups by quantitative real-time reverse
     transcriptase PCR and plaque immunoassay identified two highly potent
     siRNAs with 50% inhibitory concentration (IC50) values in the subnanomolar
     range. siRNA45 targets the nucleoprotein messenger RNA (mRNA) and had IC50
     values <0.078 nM against representative strains from the four hMPV
     subgroups, whereas siRNA60, which targets the phosphoprotein mRNA, had
     IC50 values between 0.090-<0.078 nM against the same panel of hMPV
     strains.  Longer25/27-mer siRNAs known as Dicer
     substrates designed from the top two siRNA candidates were also
     evaluated and were at least as effective as their corresponding 21-mer
     siRNAs.  Interestingly, the presence of one or two nucleotide
     mismatches in the target mRNA sequence of some hMPV subgroups did
     not always affect hMPV inhibition in vitro.  CONCLUSIONS: We successfully
     identified two highly efficient siRNAs against hMPV targeting essential
     components of the hMPV replication complex.


=> s dicer and mismatch?
           758 DICER
            19 DICERS
           761 DICER
```

```
                (DICER OR DICERS)
         26652 MISMATCH?
L2           9 DICER AND MISMATCH?

=> d ti 1-9

L2   ANSWER 1 OF 9     MEDLINE on STN
TI   Inhibition of human metapneumovirus replication by small interfering RNA.

L2   ANSWER 2 OF 9     MEDLINE on STN
TI   Two molecular features contribute to the Argonaute specificity for the
     microRNA and RNAi pathways in C. elegans.

L2   ANSWER 3 OF 9     MEDLINE on STN
TI   MicroRNA-373 induces expression of genes with complementary promoter
     sequences.

L2   ANSWER 4 OF 9     MEDLINE on STN
TI   Endoribonuclease-prepared short interfering RNAs induce effective and
     specific inhibition of human immunodeficiency virus type 1 replication.

L2   ANSWER 5 OF 9     MEDLINE on STN
TI   Drosophila microRNAs are sorted into functionally distinct argonaute
     complexes after production by dicer-1.

L2   ANSWER 6 OF 9     MEDLINE on STN
TI   Prevalence of off-target effects in Drosophila RNA interference screens.

L2   ANSWER 7 OF 9     MEDLINE on STN
TI   A computational study of off-target effects of RNA interference.

L2   ANSWER 8 OF 9     MEDLINE on STN
TI   Derivation and function of small interfering RNAs and microRNAs.

L2   ANSWER 9 OF 9     MEDLINE on STN
TI   Functional siRNAs and miRNAs exhibit strand bias.


=> s dicer and substrate
           758 DICER
            19 DICERS
           761 DICER
                (DICER OR DICERS)
        230111 SUBSTRATE
        103276 SUBSTRATES
        289475 SUBSTRATE
                (SUBSTRATE OR SUBSTRATES)
L3          89 DICER AND SUBSTRATE

=> d ti 50-89

L3   ANSWER 50 OF 89     MEDLINE on STN
TI   Reliable prediction of Drosha processing sites improves microRNA gene
     prediction.

L3   ANSWER 51 OF 89     MEDLINE on STN
TI   RNA interference from multimeric shRNAs generated by rolling circle
     transcription.

L3   ANSWER 52 OF 89     MEDLINE on STN
TI   Characterization of the short RNAs bound by the P19 suppressor of RNA
```

silencing in mouse embryonic stem cells.

L3 ANSWER 53 OF 89 MEDLINE on STN
TI Sequestration and protection of double-stranded RNA by the betanodavirus b2 protein.

L3 ANSWER 54 OF 89 MEDLINE on STN
TI Induction of the interferon response by siRNA is cell type- and duplex length-dependent.

L3 ANSWER 55 OF 89 MEDLINE on STN
TI A structural basis for discriminating between self and nonself double-stranded RNAs in mammalian cells.

L3 ANSWER 56 OF 89 MEDLINE on STN
TI Characterization of 43 non-protein-coding mRNA genes in Arabidopsis, including the MIR162a-derived transcripts.

L3 ANSWER 57 OF 89 MEDLINE on STN
TI Molecular phylogenetics and comparative modeling of HEN1, a methyltransferase involved in plant microRNA biogenesis.

L3 ANSWER 58 OF 89 MEDLINE on STN
TI Short interfering RNA strand selection is independent of dsRNA processing polarity during RNAi in Drosophila.

L3 ANSWER 59 OF 89 MEDLINE on STN
TI Mammalian microRNAs: a small world for fine-tuning gene expression.

L3 ANSWER 60 OF 89 MEDLINE on STN
TI Sequence-specific interference by small RNAs derived from adenovirus VAI RNA.

L3 ANSWER 61 OF 89 MEDLINE on STN
TI Structural insight into the mechanism of double-stranded RNA processing by ribonuclease III.

L3 ANSWER 62 OF 89 MEDLINE on STN
TI Functional proteomics reveals the biochemical niche of C. elegans DCR-1 in multiple small-RNA-mediated pathways.

L3 ANSWER 63 OF 89 MEDLINE on STN
TI Structural basis for double-stranded RNA processing by Dicer.

L3 ANSWER 64 OF 89 MEDLINE on STN
TI A human, ATP-independent, RISC assembly machine fueled by pre-miRNA.

L3 ANSWER 65 OF 89 MEDLINE on STN
TI Human RISC couples microRNA biogenesis and posttranscriptional gene silencing.

L3 ANSWER 66 OF 89 MEDLINE on STN
TI Approaches for chemically synthesized siRNA and vector-mediated RNAi.

L3 ANSWER 67 OF 89 MEDLINE on STN
TI Control of peptide product sizes by the energy-dependent protease ClpAP.

L3 ANSWER 68 OF 89 MEDLINE on STN
TI Extensive variation in the 5'-UTR of Dicer mRNAs influences translational efficiency.

L3 ANSWER 69 OF 89 MEDLINE on STN
TI Functional polarity is introduced by Dicer processing of short substrate RNAs.

L3 ANSWER 70 OF 89 MEDLINE on STN
TI Dicer-1 and R3D1-L catalyze microRNA maturation in Drosophila.

L3 ANSWER 71 OF 89 MEDLINE on STN
TI Suppression of RNA interference by adenovirus virus-associated RNA.

L3 ANSWER 72 OF 89 MEDLINE on STN
TI Natural antisense transcripts with coding capacity in Arabidopsis may have a regulatory role that is not linked to double-stranded RNA degradation.

L3 ANSWER 73 OF 89 MEDLINE on STN
TI A virus-encoded inhibitor that blocks RNA interference in mammalian cells.

L3 ANSWER 74 OF 89 MEDLINE on STN
TI Identification of a peach latent mosaic viroid hairpin able to act as a Dicer-like substrate.

L3 ANSWER 75 OF 89 MEDLINE on STN
TI Complete, gene-specific siRNA libraries: production and expression in mammalian cells.

L3 ANSWER 76 OF 89 MEDLINE on STN
TI The contributions of dsRNA structure to Dicer specificity and efficiency.

L3 ANSWER 77 OF 89 MEDLINE on STN
TI Catalytic mechanism of Escherichia coli ribonuclease III: kinetic and inhibitor evidence for the involvement of two magnesium ions in RNA phosphodiester hydrolysis.

L3 ANSWER 78 OF 89 MEDLINE on STN
TI Synthetic dsRNA Dicer substrates enhance RNAi potency and efficacy.

L3 ANSWER 79 OF 89 MEDLINE on STN
TI Synthetic shRNAs as potent RNAi triggers.

L3 ANSWER 80 OF 89 MEDLINE on STN
TI RNA interference and its promising future.

L3 ANSWER 81 OF 89 MEDLINE on STN
TI Testis brain ribonucleic acid-binding protein/translin possesses both single-stranded and double-stranded ribonuclease activities.

L3 ANSWER 82 OF 89 MEDLINE on STN
TI Structural basis for overhang-specific small interfering RNA recognition by the PAZ domain.

L3 ANSWER 83 OF 89 MEDLINE on STN
TI The fragile X syndrome repeats form RNA hairpins that do not activate the interferon-inducible protein kinase, PKR, but are cut by Dicer.

L3 ANSWER 84 OF 89 MEDLINE on STN
TI Human Dicer preferentially cleaves dsRNAs at their termini without a requirement for ATP.

L3 ANSWER 85 OF 89 MEDLINE on STN

TI MicroRNA maturation: stepwise processing and subcellular localization.

L3 ANSWER 86 OF 89 MEDLINE on STN
TI The dsRNA binding protein RDE-4 interacts with RDE-1, DCR-1, and a
    DExH-box helicase to direct RNAi in C. elegans.

L3 ANSWER 87 OF 89 MEDLINE on STN
TI Short hairpin RNAs (shRNAs) induce sequence-specific silencing in
    mammalian cells.

L3 ANSWER 88 OF 89 MEDLINE on STN
TI Dicer functions in RNA interference and in synthesis of small
    RNA involved in developmental timing in C. elegans.

L3 ANSWER 89 OF 89 MEDLINE on STN
TI Role for a bidentate ribonuclease in the initiation step of RNA
    interference.

=> d bib ab 78 76 63

L3 ANSWER 78 OF 89 MEDLINE on STN
AN 2005067203 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15619617
TI Synthetic dsRNA Dicer substrates enhance RNAi potency
    and efficacy.
AU Kim Dong-Ho; Behlke Mark A; Rose Scott D; Chang Mi-Sook; Choi Sangdun;
    Rossi John J
NC AI29329 (United States NIAID NIH HHS)
    AI42552 (United States NIAID NIH HHS)
    HL074704 (United States NHLBI NIH HHS)
SO Nature biotechnology, (2005 Feb) Vol. 23, No. 2, pp. 222-6. Electronic
    Publication: 2004-12-26.
    Journal code: 9604648. ISSN: 1087-0156.
CY United States
DT Letter
    (RESEARCH SUPPORT, NON-U.S. GOV'T)
    (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Priority Journals
EM 200505
ED Entered STN: 8 Feb 2005
    Last Updated on STN: 1 Jun 2005
    Entered Medline: 31 May 2005
AB RNA interference (RNAi) is the process of sequence-specific
    post-transcriptional gene silencing triggered by double-stranded RNAs. In
    attempts to identify RNAi triggers that effectively function at lower
    concentrations, we found that synthetic RNA duplexes 25-30 nucleotides in
    length can be up to 100-fold more potent than corresponding conventional
    21-mer small interfering RNAs (siRNAs). Some sites that are refractory to
    silencing by 21-mer siRNAs can be effectively targeted by 27-mer duplexes,
    with silencing lasting up to 10 d. Notably, the 27-mers do not induce
    interferon or activate protein kinase R (PKR). The enhanced potency of
    the longer duplexes is attributed to the fact that they are
    substrates of the Dicer endonuclease, directly linking
    the production of siRNAs to incorporation in the RNA-induced silencing
    complex. These results provide an alternative strategy for eliciting
    RNAi-mediated target cleavage using low concentrations of synthetic RNA as
    substrates for cellular Dicer-mediated cleavage.

L3 ANSWER 76 OF 89 MEDLINE on STN

AN 2005206825 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 15811921
TI The contributions of dsRNA structure to Dicer specificity and efficiency.
AU Vermeulen Annaleen; Behlen Linda; Reynolds Angela; Wolfson Alexey; Marshall William S; Karpilow Jon; Khvorova Anastasia
CS Dharmacon Inc., 2650 Crescent Dr., Suite #100, Lafayette, CO 80026, USA.
SO RNA (New York, N.Y.), (2005 May) Vol. 11, No. 5, pp. 674-82. Electronic Publication: 2005-04-05.
Journal code: 9509184. ISSN: 1355-8382.
Report No.: NLM-PMC1370754.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)
LA English
FS Priority Journals
EM 200505
ED Entered STN: 21 Apr 2005
Last Updated on STN: 25 May 2005
Entered Medline: 24 May 2005
AB Dicer processes long double-stranded RNA (dsRNA) and pre-microRNAs to generate the functional intermediates (short interfering RNAs and microRNAs) of the RNA interference pathway. Here we identify features of RNA structure that affect Dicer specificity and efficiency. The data presented show that various attributes of the 3' end structure, including overhang length and sequence composition, play a primary role in determining the position of Dicer cleavage in both dsRNA and unimolecular, short hairpin RNA (shRNA). We also demonstrate that siRNA end structure affects overall silencing functionality. Awareness of these new features of Dicer cleavage specificity as it is related to siRNA functionality provides a more detailed understanding of the RNAi mechanism and can shape the development of hairpins with enhanced functionality.

L3 ANSWER 63 OF 89 MEDLINE on STN
AN 2006024015 MEDLINE <<LOGINID::20090820>>
DN PubMed ID: 16410517
TI Structural basis for double-stranded RNA processing by Dicer.
AU Macrae Ian J; Zhou Kaihong; Li Fei; Repic Adrian; Brooks Angela N; Cande W Zacheus; Adams Paul D; Doudna Jennifer A
CS Department of Molecular and Cell Biology, University of California, Berkeley, CA 94720, USA.
SO Science (New York, N.Y.), (2006 Jan 13) Vol. 311, No. 5758, pp. 195-8.
Journal code: 0404511. E-ISSN: 1095-9203.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
OS PDB-2FFL
EM 200602
ED Entered STN: 14 Jan 2006
Last Updated on STN: 2 Feb 2006
Entered Medline: 1 Feb 2006
AB The specialized ribonuclease Dicer initiates RNA interference by cleaving double-stranded RNA (dsRNA) substrates into small fragments about 25 nucleotides in length. In the crystal structure of an intact Dicer enzyme, the PAZ domain, a module that binds the end of dsRNA, is separated from the two catalytic ribonuclease III (RNase III) domains by a flat, positively charged surface. The 65 angstrom distance

between the PAZ and RNase III domains matches the length spanned by 25 base pairs of RNA. Thus, Dicer itself is a molecular ruler that recognizes dsRNA and cleaves a specified distance from the helical end.

```
=> FIL STNGUIDE
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       5.36       5.58

FILE 'STNGUIDE' ENTERED AT 08:30:11 ON 20 AUG 2009
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 14, 2009 (20090814/UP).

=>
=> d his full

     (FILE 'HOME' ENTERED AT 08:23:26 ON 20 AUG 2009)

     FILE 'MEDLINE' ENTERED AT 08:23:33 ON 20 AUG 2009
L1             1 SEA PLU=ON  DICER AND SUBSTRATE AND MISMATCH?
                 D BIB AB
L2             9 SEA PLU=ON  DICER AND MISMATCH?
                 D TI 1-9
L3            89 SEA PLU=ON  DICER AND SUBSTRATE
                 D TI 50-89
                 D BIB AB 78 76 63

     FILE 'STNGUIDE' ENTERED AT 08:30:11 ON 20 AUG 2009


     FILE HOME

     FILE MEDLINE
      FILE LAST UPDATED: 19 Aug 2009 (20090819/UP).  FILE COVERS 1949 TO DATE.

      MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject
      Headings (MeSH) vocabulary and tree numbers from the U.S.  National Libra
      of Medicine (NLM).  Additional information is available at

      http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.

      On February 21, 2009, MEDLINE was reloaded.  See HELP RLOAD for details.

      This file contains CAS Registry Numbers for easy and accurate
      substance identification.

      See HELP RANGE before carrying out any RANGE search.

     FILE STNGUIDE
     FILE CONTAINS CURRENT INFORMATION.
     LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       2.80       8.38
```

STN INTERNATIONAL LOGOFF AT 08:54:14 ON 20 AUG 2009